



SAFETY DATA SHEET

R-404A

According to the REACH etc. (Amendment etc.) (EU Exit) Regulations 2020 No. 1577, as amended.
Commission Regulation (EU) 2020/878 of 18 June 2020.
According to Regulation (EC) No 1907/2006, Annex II, as amended.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name R-404A

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses Refrigerant.

1.3. Details of the supplier of the safety data sheet

Supplier Pront Soğutma Dış Ticaret LTD. ŞTİ.
Acarlar Mahallesi 3. Cadde 15. Sokak No:29 T13/1
Beykoz, İstanbul - Turkey

1.4. Emergency telephone number

Emergency telephone +90 216 759 2396

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (SI 2019 No. 720)

Physical hazards Press. Gas (Liq.) - H280

Health hazards Not Classified

Environmental hazards Not Classified

Additional information Classification (Regulation (EC) No. 1272/2008).

2.2. Label elements

Hazard pictograms



Signal word Warning

Hazard statements H280 Contains gas under pressure; may explode if heated.

Precautionary statements P410+P403 Protect from sunlight. Store in a well-ventilated place.

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current UK criteria.



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SECTION 3: Composition/information on ingredients

3.2. Mixtures

1,1,1-trifluoroethane CAS number: 420-46-2 EC number: 206-996-5	50-70%
Classification Flam. Gas 1A - H220 Press. Gas (Liq.) - H280	
Pentafluoroethane CAS number: 354-33-6 EC number: 206-557-8	25-40%
Classification Press. Gas (Liq.) - H280	
Norflurane (1,1,1,2-Tetrafluoroethane) CAS number: 811-97-2 EC number: 212-377-0	3-5%
Classification Press. Gas (Liq.) - H280	

The full text for all hazard statements is displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Get medical attention immediately. Show this Safety Data Sheet to the medical personnel.
Inhalation	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.
Ingestion	Rinse mouth thoroughly with water. Remove any dentures. Stop if the affected person feels sick as vomiting may be dangerous. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.
Skin contact	Rinse with water. Remove contaminated clothing. Caution: Clothing may adhere to the skin in case of freeze burns. Thaw frosted parts with lukewarm water. Do not rub affected area. Get medical attention if symptoms are severe or persist after washing.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 10 minutes.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue.



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4.2. Most important symptoms and effects, both acute and delayed

General information	See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	May cause respiratory irritation.
Ingestion	Due to the physical nature of this product, it is unlikely that ingestion will occur.
Skin contact	No specific symptoms known.
Eye contact	No specific symptoms known. May be slightly irritating to eyes.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	The product is not flammable. Extinguish with foam, carbon dioxide or dry powder. Use fire-extinguishing media suitable for the surrounding fire.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Containers can burst violently or explode when heated, due to excessive pressure build-up.
Hazardous combustion products	Hydrogen fluoride (HF).

5.3. Advice for firefighters

Protective actions during firefighting	Avoid breathing fire gases or vapours. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material.
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6.2. Environmental precautions

Environmental precautions	Exposure to aquatic environment unlikely. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).
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6.3. Methods and material for containment and cleaning up

Methods for cleaning up Wear protective clothing as described in Section 8 of this safety data sheet. Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing. Provide adequate ventilation. Clear up spills immediately and dispose of waste safely. Approach the spillage from upwind. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Vapours are heavier than air and may travel along the floor and accumulate in the bottom of containers.

Advice on general occupational hygiene Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store away from incompatible materials (see Section 10). Store in accordance with local regulations. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Protect from sunlight. Avoid contact with oxidising agents. Eliminate all sources of ignition. Bund storage facilities to prevent soil and water pollution in the event of spillage. Store at temperatures not exceeding 45°C.

Storage class Compressed gas storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

Long-term exposure limit (8-hour TWA): WEL 1000 ppm 4240 mg/m³

Pentafluoroethane

Long-term exposure limit (8-hour TWA): WEL 2000 ppm

Norflurane (1,1,1,2-Tetrafluoroethane)

Long-term exposure limit (8-hour TWA): WEL 1000 ppm 4240 mg/m³

WEL = Workplace Exposure Limit.

1,1,1-trifluoroethane (CAS: 420-46-2)

DNEL

Workers - Inhalation; systemic effects: 38 800 mg/m³

Consumer - Inhalation; systemic effects: 10 700 mg/m³



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PNEC - Fresh water; 350 mg/l

Pentafluoroethane (CAS: 354-33-6)

DNEL Workers - Inhalation; systemic effects: 16 444 mg/m³
Consumer - Inhalation; systemic effects: 1753 mg/m³

PNEC - Fresh water; 0,1 mg/l
- Water, Intermittent release; 1 mg/l
- Sediment (Freshwater); 0,6 mg/l

Norflurane (1,1,1,2-Tetrafluoroethane) (CAS: 811-97-2)

DNEL Workers - Inhalation; Long term systemic effects: 13936 mg/m³
Consumer - Inhalation; Long term systemic effects: 2476 mg/m³

PNEC Fresh water; 0,1 mg/l
marine water; 0,01 mg/l
Sediment (Freshwater); 0,75 mg/kg
STP; 73 mg/l

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment that provides appropriate eye and face protection should be worn. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses.

Hand protection

Wear leather gloves to prevent frostbite injuries from rapidly expanding gas when handling pressurized gas bottles.

Other skin and body protection

Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

Hygiene measures

Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.



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Respiratory protection Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is 'UKCA'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges suitable for intended use should be used. Half mask and quarter mask respirators with replaceable filter cartridges suitable for intended use should be used.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquefied gas
Colour	Colourless.
Odour	Slightly ethereal.
Odour threshold	Not available.
pH	Not available.
Melting point	Not available.
Initial boiling point and range	-47,2- -46,4°C
Flash point	Not available.
Evaporation rate	Not available.
Evaporation factor	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not available.
Vapour density	~ 3,42 (Air = 1.0)
Relative density	Not available.
Density	1,06 g/cm ³ 20 °C
Bulk density	No information available.
Solubility(ies)	Insoluble in water.
Partition coefficient	log Pow: 1,740 (CAS No: 420-46-2) log Pow: 1,48 @ 25°C (CAS No: 354-33-6) log Pow: 1,06 @ 25°C (CAS No: 811-97-2)
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not available.
Explosive properties	No information available.
Oxidising properties	No information available.

9.2. Other information

Volatile Organic compounds - VOCs Not available.



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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity See the other subsections of this section for further details.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Hydrogen fluoride by thermal decomposition and hydrolysis.

10.4. Conditions to avoid

Conditions to avoid Incompatible materials. Keep away from heat, sparks and open flame.

10.5. Incompatible materials

Materials to avoid Finely divided magnesium Magnesium and alloys containing 2% magnesium.

10.6. Hazardous decomposition products

Hazardous decomposition products Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours. Hydrogen fluoride (HF).

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity - oral

Notes (oral LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - dermal

Notes (dermal LD₅₀) Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Based on available data the classification criteria are not met.
LC50 2910 mg/m³, 4 hour, Rat 1,1,1-trifluoroethane (CAS no.: 420-46-2)
LC50 540000 ppm, 4 hour, Rat Norflurane (CAS no.:811-97-2)

Skin corrosion/irritation

Animal data Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met.

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.



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Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

IARC carcinogenicity None of the ingredients are listed or exempt.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Reproductive toxicity - development Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard Not relevant. Gas.

11.2. Information on other hazards

Information on other hazards No information available.

Toxicological information on ingredients.

Pentafluoroethane

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LC50 > 800000 ppm, Inhalation, Rat

Respiratory sensitisation

Respiratory sensitisation Cardiac Sensitization Threshold Species: Dogs
Note: No-observed-effect level: 75000 ppm
Lowest observed effect level: 100 000 ppm

Germ cell mutagenicity

Genotoxicity - in vitro Ames test: Negative. Cell type: Human lymphocytes
Result: Negative
Method: Mutagenicity (in vitro mammalian cytogenetic test)

Test Method: Chromosome aberration test in vitro
Result: Negative

Cell type: Human lymphocytes
Result: Negative

Cell type: Chinese Hamster Ovary Cells
Result: Negative
Bacterial reverse mutation test, (OECD 471): Negative. In vitro mammalian cell gene mutation test: Negative. Based on the test results of similar product.
In vitro chromosomal aberration test., (OECD 473): Negative.
Mammalian Erythrocyte Micronucleus Test, (OECD Guideline 474), Mouse: Negative.



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Reproductive toxicity

Reproductive toxicity - fertility - NOAEL 50000 ppm, Inhalation, Rabbit Note: Did not show teratogenic effects in animal experiments.
- NOAEL 50000 ppm, Inhalation, Rat Note: Did not show teratogenic effects in animal experiments.
Rat Method of Application: Soluma (OECD 422) Negative.

Reproductive toxicity - development

Maternal toxicity: - NOAEL: 50000 ppm, Inhalation, Rabbit Note: Did not show teratogenic effects in animal experiments.
Maternal toxicity: - NOAEL: 50000 ppm, Inhalation, Rabbit Note: Did not show teratogenic effects in animal experiments.

Repeated dose toxicity

Species: Rat
Application Route: Inhalation
Exposure time: (4 Weeks)
NOEL: 50000 ppm
Subchronic toxicity

Norflurane (1,1,1,2-Tetrafluoroethane)

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LC50 >567000 ppm, Inhalation, Rat (OECD Test Guideline 403)

Skin corrosion/irritation

Animal data Rabbit. Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation Rabbit. Not irritating.

Skin sensitisation

Skin sensitisation - Guinea pig: Not sensitising.
- Rat: Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Note: In vitro tests did not show mutagenic effects.
Bacterial reverse mutation test: Negative. (OECD Guideline 471)
Chromosome aberration: Negative. (OECD Guideline 473)

Genotoxicity - in vivo

Mammalian Erythrocyte Micronucleus Test: Negative. Mouse
Method of Application: inhalation (gas) (OECD Guideline 474)
Unscheduled in vivo DNA synthesis (UDS) assay in mammalian liver cells Rat
Negative.
(OECD Guideline 486)
Method of Application: inhalation (gas)

Carcinogenicity

Carcinogenicity Method of Application: inhalation 2 years (OECD Guideline 453) Negative.

Reproductive toxicity

Reproductive toxicity - fertility Mouse Method of Application: inhalation Negative.

Reproductive toxicity - development

Rabbit Method of Application: inhalation OECD 414 Negative.



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Repeated dose toxicity	NOAEL 50000 ppm, Inhalation, Rat LOAEL > 50000 ppm, Inhalation, Rat OECD 413 NOAEC 40000 mbp, Inhalation, Dog Test atmosphere: gas. Notes: Cardiac sensitization LOAEC 80000 mbp, Inhalation, Dog Test atmosphere: gas. Symptoms: May cause cardiac arrhythmia. Cardiac Sensitization Threshold 334000 mbp, Inhalation, Dog Test atmosphere: gas. Symptoms: May cause cardiac arrhythmia.
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SECTION 12: Ecological information

Ecotoxicity Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Toxicity Based on available data the classification criteria are not met.

Ecological information on ingredients.

1,1,1-trifluoroethane

Acute aquatic toxicity

Acute toxicity - fish	LC ₅₀ , 96 hour: >40 mg/l, (OECD 203)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hour: 300 mg/l, Daphnia magna (Water flea), (OECD 202)

Pentafluoroethane

Acute aquatic toxicity

Acute toxicity - fish	LC ₅₀ , 96 hour: >100 mg/l, Oncorhynchus mykiss (Rainbow trout) Based on the test results of similar product.
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hour: >100 mg/l, Daphnia magna (Water flea)
Acute toxicity - aquatic plants	ErC ₅₀ , 72 hour: >100 mg/l, Pseudokirchneriella subcapitata (OECD 201) Based on the test results of similar product. NOEC, 72 hour: >1 mg/l, Pseudokirchneriella subcapitata (OECD 201) Based on the test results of similar product.

Norflurane (1,1,1,2-Tetrafluoroethane)

Acute aquatic toxicity

Acute toxicity - fish	LC ₅₀ , 96 hour: 450 mg/l, Oncorhynchus mykiss (Rainbow trout)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hour: 980 mg/l, Daphnia magna (Water flea)
Acute toxicity - aquatic plants	ErC ₅₀ , 96 hour: >100 mg/l, Algae Based on the test results of similar product.

12.2. Persistence and degradability

Persistence and degradability The degradability of the product is not known.



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Ecological information on ingredients.

Pentafluoroethane

Persistence and degradability Not readily biodegradable. 5 % 28d (OECD 301D)

Norflurane (1,1,1,2-Tetrafluoroethane)

Persistence and degradability Not readily biodegradable. (OECD 301D)

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient log Pow: 1,740 (CAS No: 420-46-2)
log Pow: 1,48 @ 25°C (CAS No: 354-33-6)
log Pow: 1,06 @ 25°C (CAS No: 811-97-2)

Ecological information on ingredients.

Pentafluoroethane

Partition coefficient log Pow: 1.48 (OECD 107)

Norflurane (1,1,1,2-Tetrafluoroethane)

Bioaccumulative potential Bioaccumulation is unlikely.

Partition coefficient log Pow: 1,06

12.4. Mobility in soil

Mobility Not relevant.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current UK criteria.

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

Other adverse effects No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.



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Disposal methods Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Waste packaging should be collected for reuse or recycling. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 14: Transport information

14.1. UN number or ID number

UN No. (ADR/RID)	3337
UN No. (IMDG)	3337
UN No. (ICAO)	3337
UN No. (ADN)	3337

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	REFRIGERANT GAS R 404A
Proper shipping name (IMDG)	REFRIGERANT GAS R 404A
Proper shipping name (ICAO)	REFRIGERANT GAS R 404A
Proper shipping name (ADN)	REFRIGERANT GAS R 404A

14.3. Transport hazard class(es)

ADR/RID class	2.2
ADR/RID classification code	2A
ADR/RID label	2.2
IMDG class	2.2
ICAO class/division	2.2
ADN class	2.2

Transport labels



14.4. Packing group

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

EmS	F-C, S-V
ADR transport category	3
Emergency Action Code	2TE
Hazard Identification Number (ADR/RID)	20



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Tunnel restriction code (C/E)

14.7. Maritime transport in bulk according to IMO instruments

Maritime transport in bulk according to IMO instruments Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations	Health and Safety at Work etc. Act 1974 (as amended). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. EH40/2005 Workplace exposure limits.
Authorisations (SI 2020 No. 1577 Annex XIV)	No specific authorisations are known for this product.
Authorisations (Annex XIV Regulation 1907/2006)	No specific authorisations are known for this product.
Restrictions (SI 2020 No. 1577 Annex XVII)	No specific restrictions on use are known for this product.
Restrictions (Annex XVII Regulation 1907/2006)	No specific restrictions on use are known for this product.
Seveso Directive - Control of major accident hazards	Not relevant.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet	ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road. ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways. RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail. IATA: International Air Transport Association. ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air. IMDG: International Maritime Dangerous Goods. CAS: Chemical Abstracts Service. ATE: Acute Toxicity Estimate. LC50: Lethal Concentration to 50 % of a test population. LD50: Lethal Dose to 50% of a test population (Median Lethal Dose). EC ₅₀ : 50% of maximal Effective Concentration. PBT: Persistent, Bioaccumulative and Toxic substance. vPvB: Very Persistent and Very Bioaccumulative.
Classification abbreviations and acronyms	Press. Gas (Liq.) = Gas under pressure: Liquefied gas
Key literature references and sources for data	Source: European Chemicals Agency, http://echa.europa.eu/ This SDS is prepared based on the information and documents received from product owner. CRAD or/and SDS author shall not be responsible for incorrect prepared of SDS and pecuniary loss or intangible damages because of deficient or wrong information and documents which comes from product owner.



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Classification procedures according to SI 2019 No. 720 and Regulation (EC) No. 1272/2008	Press. Gas (Liq.) - H280: : Expert judgement., On basis of test data.
Training advice	Read and follow manufacturer's recommendations. Only trained personnel should use this material.
Issued by	Büşra TARAKCI / CRAD gbf@crad.com.tr Tel+90 216 3354600
Revision date	01/12/2022
Revision	1.0
Supersedes date	01/12/2022
SDS number	13431
Hazard statements in full	H220 Extremely flammable gas. H280 Contains gas under pressure; may explode if heated.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.